

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application.

Claims 1-7 are pending in this application. Claim 1 is amended and is independent. Claims '6 and 7 are added.

Reconsideration of this application, as amended, is respectfully requested.

Drawings

Applicants have not received a Notice of Draftsperson's Patent Drawing Review, Form PTO-948, indicating whether the formal drawings have been approved by the Official Draftsperson. It is respectfully submitted that the drawings comply with the requirements of the USPTO. Clarification with the next official communication is respectfully requested.

Claim for Priority

The Examiner has recognized Applicants' claim for foreign priority and receipt of the certified copy of the priority document. No further action is required at this time.

Rejections under 35 U.S.C. §103(a)

Claims 1 and 3-5 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,709,598 to Nishio et

al. in view of U.S. Patent No. 5,021,120 to Buck et al. Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Nishio et al. and Buck et al. in view of U.S. Patent No. 5,182,188 to Cole, Jr. et al. These rejections are respectfully traversed.

While not conceding the appropriateness of any of the rejections, but merely to advance prosecution of the instant application, independent claim 1 is amended to recite a process of manufacturing a roll punch used for forming partition walls of a plasma display panel having a combination of steps, including etching an intermediate product at the mask-free parts within an etching tank provided with at least one ultrasonic vibrator by radiating ultrasonic waves from the at least one ultrasonic vibrator towards the mask-free parts while rotating the intermediate product, thus forming a plurality of partition wall-forming grooves on said forming roll of the intermediate product.

It is respectfully submitted that the combination of steps set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Nishio et al., Buck et al., and Cole, Jr. et al.

In contrast to Applicants' claimed invention, Nishio et al. merely discloses a method of producing an abrasive in which a film substrate 2 is partially wrapped around a roll form plate 1 with a pan 4 containing a curable resin below the roll form plate 1, as shown in FIG. 1. A curable resin 3 is supplied from within the pan 4 by coating rolls 7 to fill plate concavities 5. Ionizing radiation rays R are irradiated toward the substrate 5 by irradiating device 8. Then substrate 2 is peeled off from the form plate 1 to produce a polishing abrasive layer 10 provided with recesses 9 formed by the roll form plate 1, as shown in FIG. 2. In forming the plate concavities 5, a photoresist film 16 may be laid on a surface of a middle plate 15, as shown in FIG. 6. However, Nishio et al. does not teach or suggest etching an intermediate product at the mask-free parts within an etching tank provided with at least one ultrasonic vibrator by radiating ultrasonic waves from the at least one ultrasonic vibrator towards the mask-free parts while rotating the intermediate product, thus forming a plurality of partition wall-forming grooves on said forming roll of the intermediate product, as recited in claim 1.

The Office Action relies on Buck et al. for a teaching of the use of ultrasound while etching the exposed portions of a

substrate. However, Buck et al. does not teach or suggest the above-cited limitations of claim 1 and, therefore, fails to cure the deficiencies of Nishio et al.

The Office Action relies on Cole, Jr. et al. for a teaching of the use of a laser beam to partially remove an etching mask. However, Cole, Jr. et al. does not teach or suggest the above-cited limitations of claim 1 and, therefore, fails to cure the deficiencies of Nishio et al. and Buck et al.

In view of the foregoing, it is respectfully submitted that Nishio et al., Buck et al., and Cole, Jr. et al. fail to disclose or render obvious the presently claimed invention, and withdrawal of the rejections based thereon is respectfully requested. Independent claim 1 is in condition for allowance. Since the remaining claims depend directly or indirectly from allowable independent claim 1, they are also allowable for at least the same reasons as set forth above, as well as for the additional limitations provided by these claims. Accordingly, all claims should be allowable.

Added Claims

Claims 6 and 7 are added to recite additional aspects of the present invention. It is respectfully submitted that claims

6 and 7 are fully supported by the specification and do not introduce new matter.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

However, if there are any outstanding issues, the Examiner is invited to telephone Sam Bhattacharya, Reg. No. 48,107, at 703-205-8000, in an effort to expedite prosecution.

Pursuant to 37 C.F.R. §§1.17 and 1.136(a), Applicants hereby request a two-month extension of time in which to file this reply. A check for \$410 is attached.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any

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additional fees required under 37 C.F.R. §§ 1.16 or 1.17,
particularly extension of time fees.

Respectfully submitted,

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2832-118P
Attachments
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MARKED-UP COPY OF AMENDED CLAIM 1

1. (Amended) A process of manufacturing a roll punch used for forming partition walls of a plasma display panel, comprising the steps of:

coating a mask on an external surface of a forming roll;

partially removing the mask from said forming roll at regularly spaced positions while rotating said forming roll, thus forming an intermediate product having a plurality of regularly spaced mask-free parts;

etching said intermediate product at the mask-free parts [using ultrasonic waves] within an etching tank provided with [an] at least one ultrasonic vibrator by radiating ultrasonic waves from said at least one ultrasonic vibrator towards the mask-free parts while rotating said intermediate product, thus forming a plurality of partition wall forming grooves on said forming roll of the intermediate product; and

completely removing a remaining part of said mask from the forming roll having the partition wall forming grooves, thus finally producing a roll punch.

CLAIMS 6 AND 7 ARE ADDED.